

Autonomous Composite Fan Containment Integrity Monitoring (AUTOCONFIRM) System, Phase I

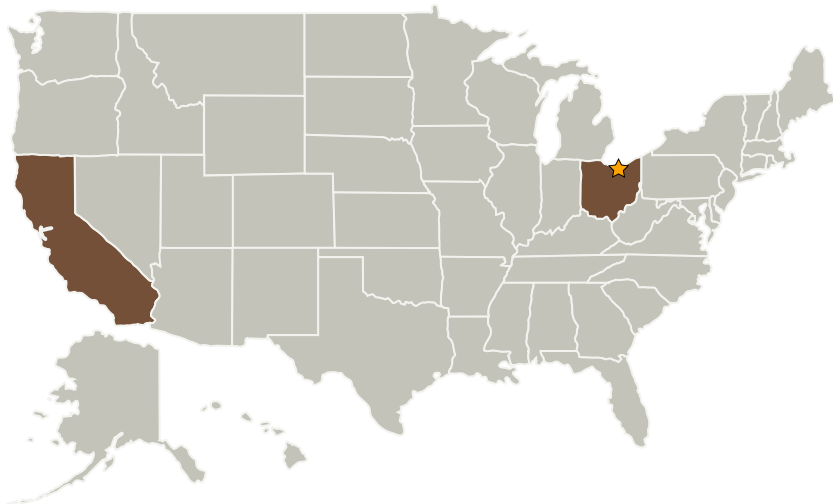
Completed Technology Project (2008 - 2008)



Project Introduction

New engine fan blade containment structures are being manufactured with advanced composite structures such that they can withstand blade-out events. The use of advance composites requires the understanding of the possible effects of aging degradation on the performance of "hard wall" or "soft wall" composite fan containment structures to ensure durability in their use in jet engine applications. Acellent Technologies, Inc. proposes to develop an innovative, low-cost and reliable system for assessment of the integrity of composite fan containment structures that will automatically monitor in real-time the location and extent of damage in the containment structure. The system will utilize a network of miniature sensors integrated with the structure to scan the entire structural area for any impact events, resulting structural damage and monitor degradation due to usage. Phase I will focus on developing a prototype of the system and demonstrating functionality to detect damage both on the inner and exterior surface of the fan containment structure.

Primary U.S. Work Locations and Key Partners



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Glenn Research Center (GRC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Organizations Performing Work	Role	Type	Location
★ Glenn Research Center(GRC)	Lead Organization	NASA Center	Cleveland, Ohio
Acellent Technologies, Inc.	Supporting Organization	Industry Small Disadvantaged Business (SDB), Women-Owned Small Business (WOSB)	Sunnyvale, California

Primary U.S. Work Locations

California	Ohio
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Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Amrita Kumar

Technology Areas

Primary:

- TX12 Materials, Structures, Mechanical Systems, and Manufacturing
 - └ TX12.2 Structures
 - └ TX12.2.3 Reliability and Sustainment